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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,301	02/17/2004	Bill Tobler	81091394	9763
32997	7590	03/18/2005	EXAMINER	
TUNG & ASSOCIATES 838 WEST LONG LAKE, SUITE 120 BLOOMFIELD HILLS, MI 48302			BURCH, MELODY M	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,301

Applicant(s)

TOBLER ET AL.

Examiner

Melody M. Burch

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/17/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 84 in figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-7 and 15-17 are objected to because of the following informalities: the phrase "the one or more determined frequencies" first recited in line 2 from the bottom of claim 1 should be changed to --the one or more determined natural vibration frequencies—to maintain consistent terminology, in line 2 of claim 4 "the selected nominal response" should be changed to --the selected nominal ABS response--, in line 2 of claim 7 the phrase "the vehicle's brakes" should be reworded to eliminate the

Art Unit: 3683

apostrophe (also see claim 15), in line 2 of claim 3 the phrase "the natural frequencies" in line 2 should be changed to --the one or more natural frequencies-- since there is a possibility of having only one natural frequency. Similar changes should be made throughout the claims. The remaining claims are objected to due to their dependency from claim 1 or 15. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. The phrase "the powertrain" in line 2 from the bottom of claim 1 lacks proper antecedent basis in the claim.

Re: claim 7. The phrase "the vehicle's brakes" in line 2 lacks proper antecedent basis in the claim.

Re: claim 10. The phrase "the results" in line 2 lacks proper antecedent basis in the claim.

The remaining claims are indefinite due to their dependency from claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3683

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4668022 to Sato.

Re: claims 1, 8, 15, 16, and 17. Sato describes the limitation wherein in a vehicle having an anti-lock braking system (ABS), a method controlling the ABS comprising: determining one or more natural vibration frequencies of the vehicle n_0 as described in col. 6 line 68, selecting a nominal ABS response to a brake request as described in col. 7 lines 4-6 in which the judgement circuit determines a rough road braking scheme, altering the selected ABS response to avoid exciting the powertrain at the one or more determined frequencies as described in col. 7 lines 7-25. Examiner notes that elements 32 and 33 in figure 2 inherently possesses memory and programmed instructions and the data input devices are the wires over which the control information is passed.

Re: claims 2 and 9. Sato describes the limitation of determining which of the determined frequencies may be excited by the nominal ABS response. Particularly, it is determined that frequency $f > n_m$ during a braking operation carried out on a rough roads may be excited by the nominal ABS response as suggested in col. 7 lines 1-5. Therefore, the signal E and the controlled decrease in rate of hydraulic braking pressure must be implemented.

Re: claims 3, 10, and 11. Sato describes in col. 6 line 66 – col. 7 line 4 the limitation wherein the step of determining which of the natural frequencies may be excited by the nominal ABS response comprises correlating a set of normally appropriate responses with the determined natural frequencies.

Re: claim 4. Sato describes in col. 7 lines 5 the limitation wherein the step of determining whether the selected nominal response will excite one of the determined natural frequencies by determining if f is greater than n_m which increases the likelihood of f approaching the natural frequency which is greater than the normal frequency of 10Hz as described in col. 7 lines 1-4.

Re: claims 5, 12. Sato describes in col. 7 lines 7-15 the limitation wherein the altering step comprises delaying the nominal ABS response for a selected period of time.

Re: claims 6, 7, 13, and 14. Sato describes in col. 7 lines 21-25 the limitation wherein the altering step comprises accelerating (negative decelerating) the nominal ABS response.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5948036 to Okubo teaches an anti-lock control method and apparatus and in col. 2 that vibrations coinciding with the natural frequency of a vibration system may cause the problem of constant vibrations.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone

Art Unit: 3683

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 14, 2005

Melody M. Burch
3/14/05